THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 41

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte CHRISTOPHER TAYLOR

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Appeal No. 98-0102
Application 08/030,734[1]

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HEARD: Jan. 13, 1998

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Before CALVERT, FRANKFORT and NASE, ***Administrative Patent Judges***.

CALVERT, ***Administrative Patent Judge***.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1 to 7, 10, 12, 15 and 24 to 33, all of the claims remaining in the

[1]Application for patent filed March 12, 1993.

application.[2]

The claims on appeal are drawn to methods for increasing the energy efficiency of a refrigeration system, of a heat pumping system, or of a combination thereof. Claim 1 is representative and reads:

> 1. A method for increasing the energy efficiency of a refrigeration system of the type comprising insulated enclosing means; a space, to be maintained at depressed temperatures, and separated from its surroundings by said enclosing means; heat absorber means, on the inside of said enclosing means; heat supplier means, outside of said enclosing means and to be maintained at a temperature which is greater than that of said surroundings; and refrigerating means to depress the temperature of said heat absorber means; energy being supplied to said refrigerating means in order to maintain the temperature difference between said heat supplier means and said heat absorber means
> wherein the method comprises
> constructing said heat absorber means to largely envelop said enclosed space and effecting the reduced difference between the operating temperatures of said heat supplier means and said heat absorber means, substantially as permitted by said largely enveloping construction.

[2]An amendment after final rejection, seeking to add claim 34 (Paper No. 14, filed October 13, 1994) was denied entry by the examiner.

The references applied by the examiner in the final rejection are:

Gould	2,191,198	Feb. 20, 1940
Morrison	2,356,778	Aug. 29, 1944
Derosier	4,399,664	Aug. 23, 1983
O'Reilly	4,407,142	Oct. 04, 1983

The claims on appeal stand finally rejected as follows:

1. Claims 1 to 3, 5 to 7, 10, 24 to 29, 32 and 33, as being unpatentable over Morrison, under 35 USC § 103;

2. Claims 4, 12 and 15 as being unpatentable over Morrison in view of Derosier or O'Reilly, under 35 USC § 103;

3. Claims 30 and 31, as being unpatentable over Morrison in view of Gould, under 35 USC § 103.

We note initially that appellant asserts on page 49 of his brief that the final rejection was premature, and on page 52, that the amendment after final rejection (footnote 2, supra) should not have been denied entry. However, these are matters which are not within our jurisdiction to consider, and should have been raised by petition to the Commissioner under 37 CFR 1.181, rather than on appeal to this Board. See Ex

parte Jackson, 1926 Comr. Dec. 102, 104 (Comr. 1924) (premature final rejection) and In re Mindick, 371 F.2d 892, 894, 152 USPQ 566, 568 (CCPA 1976) (refusal to enter amendment).

Before comparing the prior art applied by the examiner with the claims on appeal, we must first determine whether the language of the claims is sufficiently precise that their scope can be determined; in other words, whether they comply with the requirements of 35 USC § 112, second paragraph.[3]

Each of the independent claims on appeal (1 to 3, 5 to 7 and 24 to 33) recites the step of, *inter alia*, "effecting the reduced difference between the operating temperatures of said heat supplier means and said heat absorber means, substantially as permitted by said largely enveloping construction" (instead of "heat supplier means" and "heat absorber means," claims 24, 25 and 27 to 29 recite "condenser

[3]In reviewing the claims, we note that claims 26 and 29 recite a "thermoelectric" system having "hot junction means" and "cold junction means". This is evidently intended to refer to the solid state system disclosed on page 18 of the specification, but the quoted terms do not have clear antecedent basis in the specification, as required by 37 CFR 1.75(d)(1). Such antecedent basis should be provided in any subsequent prosecution.

means" and "evaporator means", and claim 26 recites "hot junction means" and "cold junction means", respectively). In construing this recitation, we must determine the meaning of "the reduced difference", which incidentally, has no antecedent basis in the claims. The word "reduced" is a word of relationship or degree, since the difference can only be "reduced" relative to some other difference. The claims do not
specify what the temperature difference is reduced in relation to, and in such a circumstance, we must determine whether appellant's specification provides some standard for measuring the degree or relationship recited, so that one of ordinary skill would understand what is claimed when the claim is read in light of the specification. Seattle Box Co., Inc. v. Industrial Crating and Packing, Inc., 731 F.2d 818, 826, 221 USPQ 568, 574 (Fed. Cir. 1984).

From appellant's specification, it appears that the claimed operating temperature difference is "reduced" relative to the operating temperature difference in a system using an "immersed type" heat absorber. For example, as stated in the last paragraph on page 11 of the specification (emphasis

added):

> Since the amount of heat 13, is less than it would be if the Heat Absorber 1 was replaced by a Heat Absorber of the type which is immersed in the contents of the enclosed space, and since the heat transfer area in contact with the contents of the enclosed space, is almost equal to the entire inside area of the lining of the enveloped part of the enclosure, and therefore usually greater than that of a Heat Absorber of said "immersed" type, the temperature differential (T_c^0-T_a^0) is much less than it would be if a Heat Absorber of said "immersed" type was used. Consequently the <u>temperature difference (T_s^0-T_a^0) is less than it would be if a Heat Absorber of said "immersed" type was used.</u> Consequently the energy input required at 9 to maintain said temperature difference (T_s^0-T_a^0) is less than it would be if a Heat Absorber of said "immersed" type was used.

Similar statements are found on pages 14 and 17.

We do not consider that, reading the claimed step of "effecting the reduced difference" in light of the disclosure, one of ordinary skill in the art would be able to determine, with sufficient precision, what the bounds of the claimed subject matter are. See <u>In re Merat</u>, 519 F.2d 1390, 1396, 186 USPQ 471, 476 (CCPA 1975). From the specification, it appears that the temperature difference is "reduced" relative to a system using an "immersed" heat absorber. But against what such system is the reduction to be compared? Is it a system

where the identical

apparatus is used, except that a “largely enveloping” heat absorber is substituted for an “immersed” type heat absorber? Apparently not, since appellant states on page 25, lines 3 to 6 of his brief, that “the enveloping construction alone, i.e.[,] when not accompanied by compressor size reduction, effects substantially no reduction in work consumed, or reduced temperature difference, relative to Sketch No. 1 [the “immersed” heat absorber system]”. Thus, one of ordinary skill would not be able to determine whether or not the method claimed by the appellant would cover the operation of a particular system having a “largely enveloping” heat absorber or heat supplier, because no definite standard is provided for determining whether the temperature difference is “reduced”, as claimed.

The problem is illustrated in comparing claim 1 with the Morrison patent. Morrison discloses a refrigeration system with a heat absorber (evaporator 1, 2) which “largely envelops” space 11, and it is evident that there will be an operating temperature difference between the heat supplier

means (condenser 19) and the heat absorber means (evaporator). Does this difference constitute a "reduced difference" which is effected "substantially as permitted by said largely enveloping construction", as claimed? We do not consider that one of ordinary skill, reading claim 1 in light of the disclosure, would be able to answer this question. As stated in In re Hammack, 427 F.2d 1378, 1382, 166 USPQ 204, 208 (CCPA 1970):

> All provisions of the statute must be complied with in order to obtain a patent. The requirement stated in the second paragraph of section 112 existed long before the present statute came into force. Its purpose is to provide those who would endeavor, in future enterprise, to approach the area circumscribed by the claims of a patent, with the adequate notice demanded by due process of law, so that they may more readily and accurately determine the boundaries of protection involved and evaluate the possibility of infringement and dominance.

Appellant's claims do not comply with this requirement.

Accordingly, pursuant to our authority under 37 CFR 1.196(b), claims 1 to 7, 10, 12, 15 and 24 to 33 are rejected for failure to comply with 35 USC § 112, second paragraph.

Claims 3, 4, 7, 10, 12 and 15 are also rejected under the second paragraph of 35 USC § 112 on the following additional

grounds:

(i) In claim 3, appellant recites “a space” (line 3), “another space” (line 6), and “said space” (lines 13 and 14), but it is not clear which of the previously-recited spaces “said space” refers to. Evidently, it should be -- said another space --. Likewise, in claim 7 (lines 11 and 12) and claim 10 (line 3), “said space” is indefinite and should apparently be -- said first-mentioned-space --.

(ii) Dependent claims 4, 12 and 15 are indefinite in that they are not clearly related to their respective parent claims. Claim 4, for example, reads:

> 4. The improvement of claim 3, specifically in regard to refrigerators, and recovery of reject heat for use in heating, and maintaining the temperature of water to meet associated requirements for hot water.

The limitations recited in this claim are not recited as being related to the elements and steps recited in parent claim 3; for example, how do the refrigerators recited in claim 4 relate to claim 3? If it is intended that the enclosing means, first-mentioned space, and heat absorber means of claim

3, constitute a refrigerator, then claim 4 should so state.

Where, as here, speculative assumptions must be made as to the meaning of terms employed in the claims and as to the scope of the claims, in order to make a rejection under 35 USC § 103,

such a rejection should not be made. In re Steele, 305 F.2d 859, 863, 134 USPQ 292, 295 (CCPA 1962). We will therefore reverse, *pro forma*, the rejections under 35 USC § 103 in this case. However, this is not to say that if the rejections under 35 USC

§ 112 made in this decision should be overcome, the claims would necessarily be patentable over the references on which the 35 USC § 103 rejections were based.

Conclusion

The examiner's decision to reject claims 1 to 7, 10, 12, 15 and 24 to 33 under 35 USC § 103 is reversed, *pro forma*.

Claims 1 to 7, 10, 12, 15 and 24 to 33 are newly rejected under 35 USC § 112, second paragraph, pursuant to 37 CFR

§ 1.196(b).

This decision contains new grounds of rejection pursuant to 37 CFR § 1.196(b)(amended effective Dec. 1, 1997, by final rule notice, 62 Fed. Reg. 53,131, 53,197 (Oct. 10, 1997), 1203 Off. Gaz. Pat. & Trademark Office 63, 122 (Oct. 21, 1997)). 37 CFR

§ 1.196(b) provides that, "A new ground of rejection shall not be considered final for purposes of judicial review."

37 CFR § 1.196(b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new grounds of rejection to avoid termination of proceedings (§ 1.197(c)) as to the rejected claims:

> (1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the application will be remanded to the examiner. . . .
>
> (2) Request that the application be reheard under § 1.197(b) by the Board of Patent Appeals and Interferences upon the same record. . . .

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR

§ 1.136(a).

REVERSED
37 CFR 1.196(b)

IAN A. CALVERT Administrative Patent Judge	)	
CHARLES E. FRANKFORT Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
JEFFREY V. NASE Administrative Patent Judge	)	

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